



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

June 24, 2019

Mr. Naren Prasad
WEC Energy Group
200 East Randolph Drive, 21st Floor
Chicago, IL 60601

Re: Review of the Remedial Investigation Report, Revision 1, North Branch of the Chicago River Willow Street Station, Division Street Station and North Station, Operable Unit 2, Chicago, Illinois

Dear Mr. Prasad:

The U.S. Environmental Protection Agency (U.S. EPA) has reviewed the document entitled: *Remedial Investigation Report (RI), Revision 1* and the Response to Comments for the North Branch of the Chicago River Willow Street Station, Division Street Station and North Station, Operable Unit 2, dated April 12, 2019. All responses to comments submitted on the RI, Rev 0 were satisfactory. Additional comments are provided below that include clarifications on the report and further comments specific to Appendix I.

1. Figure 7 shows the following ambient sampling locations as collected within the Willow Street OU2 boundary: ACR-1 (boring), ACR-1 (surface), SWA-1DVS/SWA1WHS, and SCR-01. These samples were taken upstream of the Willow Street upland portion, but within the boundary noted as OU2. Please review and provide additional information.
2. A review of Figures 8A and 15A indicates that there are no samples along the ~250 foot section in the Willow Street OU2 boundary area north of samples PCA-1WHS and PCA-2HS, designated as WHS_Upstream in Figure 15A. Please review and provide additional information or clarify the location of samples noted in Comment 1.
3. Appendix I – Baseline Risk Assessment
 - a. The BLRA discusses the current use of the river and adjacent lands in selecting potentially complete exposure scenarios to evaluate. The BLRA assumes that uses of the river and the adjacent land will remain the same (or largely similar) in the future. Please revise the BLRA to indicate this assumption in land use in and along the river (for example, the river will continue to be used for recreational purposes).

- b. The BLRA acknowledges the fact that calculation of surface water-related risks via a ration method using EPA's tap water regional screening levels (RSLs) "are likely orders of magnitude higher than the actual risks that would occur due to the limited exposure to surface water either receptor [recreational users and construction workers] would have." A semi-qualitative analysis to support this statement could be included in a revised version. The semi-qualitative analysis could include a comparison of values for key exposure parameters. For example, a comparison of the ingestion rate, surface area, and exposure frequency parameters for an adult resident and an adult recreational user can show that the tap water RSLs overestimate the recreational user assumptions by approximately two to three orders of magnitude.
- c. The BLRA states that the risk assessment was prepared consistent with the EPA approved Multi-Site Risk Assessment Framework (RAF) (Exponent, Inc. 2007). The RAF notes that the bioavailability of polycyclic aromatic hydrocarbons (PAHs) in sediments are influenced by the organic carbon content in the sediments. The RAF references U.S. EPA guidance (EPA 2003) that provides a protocol to calculate an equilibrium partitioning sediment benchmark toxicity unit (ESB SUM-TU) for a sediment sample. Section 7.4 of the RAF states this guidance will be used to develop toxicity scores for each sediment sample. However, the ecological risk assessment used bulk PAH sediment data for screening purposes and did not calculate an ESB SUM-TU and use that data in the screening process as stated in the RAF. The ecological risk assessment used a similar protocol (EPA 2008) to calculate ESB SUM-TUs for petroleum volatile organics (benzene, ethylbenzene, toluene, and xylenes) in sediment samples. Please revise the BLRA to include the assessment of ESB-SUM-TUs for the sediment samples in the ambient locations and each of the study locations of OU2 or provide further justification to support this decision.
- d. Section 2, Page 4, Paragraph 2. The first sentence states that Figure 1 (the refined site-specific conceptual site model [CSM]) displays "potential transport mechanisms." Figure 1 shows only arrows between primary and secondary media; Figure 1 does not clearly identify what these arrows represent (for example, erosion, runoff, groundwater-surface water interaction, etc.). Figure 1 should be revised to clearly identify the potential transport mechanisms. Alternatively, Section 2 could be revised to explain the various transport mechanisms.
- e. Section 2.1, Page 4, Paragraph 3. Section 2.1 discusses potential MGP-related constituents and refers to Section 4.0 of the RI report text. For clarity and ease of use for the reader, the list of medium-specific MGP-related constituents were provided as an attachment to the BLRA.
- f. Section 2.3.1.2, Page 6. Footnote 1 indicates that further assessment of a small area on the east bank near North Station "was not considered necessary," due to its inaccessibility and small size (approximately 5 ft by 75 ft). Please provide further information on the inaccessibility of this area. A map may be useful to provide a visual reference.

- g. Section 3.1.3, Page 9. Four ambient surface water samples, and no duplicates, were collected for the North Station OU2. However, duplicate ambient surface water samples were collected for both Division Street OU2 and Willow Street OU2. Please provide further information on the sampling protocol and collection of duplicates for the surface water ambient samples obtained for North Station OU2.
- h. Section 4.3, Pages 23 and 24. Section 4.3 discusses uncertainties associated with the human health risk assessment results. This section should be revised to include the uncertainty associated with the use of tap water RSLs to characterize potential recreational user and construction worker surface water-related risks and hazards. The revised text should also include the inclusion of a semi-quantitative analysis of the magnitude of this uncertainty.
- i. Section 5.3.1, Page 34, Paragraph 2. The RAF stated that EPA guidance (EPA 2003) would be followed and an ESB SUM-TU would be calculated for each sediment sample as part of the screening process. This procedure was not completed, and no explanation was provided to justify why it was not done. Please revise the BLRA or provide further justification to support this decision.
- j. Section 7, Pages 60 and 61. Please review and update the list of references provided in Section 7, as the citation to "EPA 2015" listed on page 11 does not appear to be included.

If you wish to discuss any of the above comments, please do not hesitate to contact me.

Sincerely,



Sarah Rolfes
Remedial Project Manager

cc: C. Peters, Illinois EPA